

IN THE CLAIMS

Claims 1-21 (canceled)

22. (Previously Presented) A method of removing scale from a substrate, said method characterized by using a composition comprising
- (A) a chelating agent having at least two carboxylic acid functional groups; and
 - (B) a basic agent selected from the group consisting of alkali metal hydroxides, said basic agent establishing a pH of from 7 to 14 in said composition
- to remove the scale from the substrate; wherein one of:
- i. the composition consists of a) at least one of citric acid and a derivative of citric acid that can be converted to citric acid by hydrolysis, b) the basic agent, and c) optionally, water; or
 - ii. the chelating agent is at least one of adipic acid, malonic acid, succinic acid, 1,2-benzenedicarboxylic acid, 1,3-benzenedicarboxylic acid, 1,4-benzenedicarboxylic acid, heptanedioic acid, itaconic acid, fumaric acid, glutamic acid, tartaric acid, ethyleneglycol-bis(beta-aminocethyl ether)-N,N-tetraacetic acid, and a derivative of any of the preceding acids that can be converted to the acid by hydrolysis.

Claims 23-32 (canceled)

33. (Currently Amended) A method for the in situ removal of scale from a substrate, said method comprising the steps of:
- circulating a first volume of a composition to contact the substrate to remove scale, the composition comprising a chelating agent having at least two carboxylic acid functional groups, and a basic agent selected from the group consisting of alkali metal hydroxides wherein the basic agent establishes a pH of from 7 to 14 in the composition; wherein one of:

- i. the composition consists of a) at least one of citric acid and a derivative of citric acid that can be converted to citric acid by hydrolysis, b) the basic agent, and c) optionally, water; or
 - ii. the chelating agent is at least one of adipic acid, malonic acid, succinic acid, 1,2-benzenedicarboxylic acid, 1,3-benzenedicarboxylic acid, 1,4-benzenedicarboxylic acid, heptanedioic acid, itaconic acid, fumaric acid, glutamic acid, tartaric acid, ethyleneglycol-bis(β -aminoethyl ether)-N,N-tetraacetic acid, and a derivative of any of the preceding acids that can be converted to the acid by hydrolysis.
34. (Original) A method as set forth in claim 33 further comprising the step of heating the composition to from 50 to 110°C.
35. (Previously Presented) A method as set forth in claim 33 wherein step of circulating the first volume of the composition is conducted from 1 to 48 hours.
36. (Original) A method as set forth in claim 33 further comprising the step of inspecting the substrate after the composition has been circulated to determine if the scale has been removed.
37. (Original) A method as set forth in claim 36 further comprising the step of re-circulating the first volume of the composition after the substrate has been inspected to remove additional scale from the substrate.
38. (Original) A method as set forth in claim 37 further comprising the step of filtering the first volume of the composition to eliminate solid particulates in the first volume prior to re-circulating to remove additional scale.
39. (Original) A method as set forth in claim 38 further comprising the step of supplementing the first volume of the composition with additional basic agent after the first volume has been filtered.

40. (Original) A method as set forth in claim 36 further comprising the step of re-circulating a second volume of the composition after the substrate has been inspected to remove additional scale from the substrate.
41. (Original) A method as set forth in claim 33 further comprising the step of rinsing the substrate with water after the composition has been circulated.
42. (Previously Presented) A method as set forth in claim 41 further comprising the step of passivating the substrate after rinsing.
43. (Canceled)
44. (Currently Amended) A method for the in situ removal of silicate-containing scale from a boiler, said method comprising the steps of:
circulating a composition within the boiler, the composition comprising a chelating agent having at least two carboxylic acid functional groups, and a basic agent selected from the group consisting of alkali metal hydroxides wherein the basic agent establishes a pH of from 7 to 14 in the composition, wherein the scale that is removed is silicate-containing scale previously deposited on interior surfaces of the boiler; wherein one of:
- i. the composition consists of a) at least one of citric acid and a derivative of citric acid that can be converted to citric acid by hydrolysis, b) the basic agent, and c) optionally, water; or
 - ii. the chelating agent is at least one of adipic acid, malonic acid, succinic acid, 1,2-benzenedicarboxylic acid, 1,3-benzenedicarboxylic acid, 1,4-benzenedicarboxylic acid, heptanedioic acid, diglycolic acid, itaconic acid, malic acid, fumaric acid, glutamic acid, tartaric acid, ethyleneglycol-bis(β -aminoethyl ether)-N,N-tetraacetic acid, and a derivative of any of the preceding acids that can be converted to the acid by hydrolysis.

45. (Previously Presented) The method of claim 33, wherein the composition consists of citric acid and at least one of sodium hydroxide and potassium hydroxide.
46. (Canceled)
47. (Previously Presented) The method of claim 33, wherein the basic agent (B) is selected from the group consisting of sodium hydroxide, potassium hydroxide, and combinations thereof.
48. (Previously Presented) The method of claim 33, wherein water is present in the composition in an amount from 50 to 75 parts by weight based on 100 parts by weight of total composition.
49. (Previously Presented) The method of claim 33, wherein the chelating agent (A) is present in an amount from 5 to 25 parts by weight based on 100 parts by weight of total composition.
50. (Previously Presented) The method of claim 33, wherein the basic agent (B) is present in an amount from 5 to 35 parts by weight based on 100 parts by weight of total composition.
51. (Previously Presented) The method of claim 33, wherein the chelating agent (A) is in a 10 to 50 percent solution with water, by weight of the chelating agent (A).
52. (Previously Presented) The method of claim 33, wherein the basic agent (B) is in a 25 to 75 percent solution with water, by weight of the basic agent (B).
53. (Previously Presented) The method of claim 33, wherein the basic agent (B) establishes a pH of from 10 to 14 in the composition.

54. (Previously Presented) The method of claim 33, wherein there is a molar excess of the basic agent (B) relative to the chelating agent (A).
55. (Previously Presented) The method of claim 54, wherein the molar excess is from 0.025 to 0.075 excess moles of the basic agent (B).
56. (Previously Presented) The method of claim 33, wherein a volume ratio of a 20 to 25 weight percent aqueous solution of the chelating agent (A) to a 45 to 55 weight percent aqueous solution of the basic agent (B) in the composition is from 1 : 4 to 4 : 1.
57. (Previously Presented) The method of claim 33, wherein the composition of proviso ii) further comprises at least one additive selected from the group consisting of pH indicating dyes, corrosion inhibitors, polymeric dispersants, and combinations thereof.
58. (Previously Presented) The method of claim 22, wherein the scale comprises silica scale.
59. (Previously Presented) The method of claim 33, wherein the scale comprises silica scale.